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UGANDA NATIONAL EXAMINATIONS BOARD
UGANDA ADVANCED CERTIFICATE OF EDUCATION
NOVEMBER - DECEMBER, 2022

DO NOT WRITE YOUR SCHOOL/CENTER NUMBER ANYWHERE IN THIS BOOKLET

Candidate's Name .. Moderated MTC ITEM 2024

Signature ..

Subject MTC Paper code 02 / 2024

Random No.		
Personal Number		

**READ THE INSTRUCTIONS BELOW
CAREFULLY BEFORE USING
THE ANSWER BOOKLET.**

1. Confirm that this answer booklet has 16 pages.
Do not accept an answer booklet with missing pages.
2. Do not fold, dismantle, tear and/or mishandle any part of the answer booklet. Folding, dismantling, tearing and/or any other form of mishandling of the answer booklet is a malpractice and shall lead to cancellation of results. All work must be handed in.
3. Use a blue or black ink ball pen. Work in pencil, other than graphs, maps and drawings, will not be marked.
4. Answer only the number of questions as instructed on the question paper. Answers to extra questions will not be marked.
5. Write your answers on both sides of each sheet.
6. Do your rough work in this answer booklet. Cross through any work you do not want marked.
7. Do not share your work with another candidate or expose your work such that another candidate can copy from it. Sharing or exposing your work shall lead to cancellation of results.
8. List the question numbers in the order attempted, in the left-hand column of the boxes opposite. Do not list the multiple choice questions.
9. Check that you have written your name, signature, random number and personal number on each page of the answer booklet(s) used. Tie all the booklets used together.

Total		



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SECTION A 40MKS

- 1 Add $8383 + 77$.
- 2 Given that $K = \{ \text{all prime numbers less than } 10^4 \}$. Calculate the number of proper subsets in set K .
- 3 Mubirah borrowed shs 120 000 from Centenary bank for 6 months at an interest of 10% per month. How much interest will she pay?
- 4 The length of a rectangle is 3 times the width. The perimeter of that rectangle is 24 m. Find its width.
- 5 There are 3 red pens and 5 blue pens in a bag. Find the probability of picking a blue pen from the bag at random.
- 6 In which direction will Ketty face if she turns an angle of 225° clockwise from South?
- 7 If $X = 4$ and $3X + 2Y = 30$, find the value of Y .
- 8 The table below shows the buying and selling prices of different currencies in Uganda at KCB bank.

Currency	Buying	Selling
1 pound (£)	Ushs 44450	Ushs 4490

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A tourist arrived in Uganda with £ 165. How much money in Uganda Shillings will the tourist get from the bank?

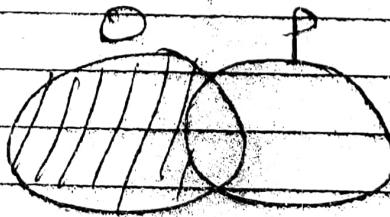
9 Two complementary angles are 30° and $(x^\circ + 40^\circ)$. Find the value of x .

10 Calculate 5×4 (finite) using a dial method.

11 How many square tiles of 20cm by 20cm can cover a ground of 3m by 15m?

12 The circumference of a circle is 22dm. Find the radius of the circle?

13 Write a mathematical statement representing the shaded region of the Venn diagram



14 Use distributive property to work out $(54 \div 9) - (27 \div 9)$

15 Express 4608 in scientific notation

16 Find the next number in the sequence below $(125, 121, 27, 8, \dots)$

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- 17 Use a ruler, a pencil and a pair of compasses only to construct an angle of 105° in the space below.
- 18 Today is Friday. What day of the week will it be after 65 days?
- 19 Given that $A = \{ 4, 6, 5, 8, 9, 7, 4 \}$ find the mean and median for the set.
- 20 Express $\frac{4}{5} : \frac{3}{5}$ as a percentage

SECTION B (MARKS)

- 21 In a village of 75 people, 32 people grow tomatoes (T), 27 people grow pineapples (P), 21 grow other crops (O).
- Draw the Venn diagram to show the information above.
 - Find the value of x .
 - If a person is picked at random, what is the chance that a person picked grows
 - (a) both crops
 - (b) one crop
- 22 A trapezium garden measures 110m and 170m along the two parallel sides. If along the height is 80m.
- Find lengths of the four sides
 - Find its perimeter
 - Calculate its area.



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- 23 A water tank is $\frac{2}{7}$ full of water, when 600 litres of water is added to the tank, it becomes $\frac{4}{5}$ full of water.

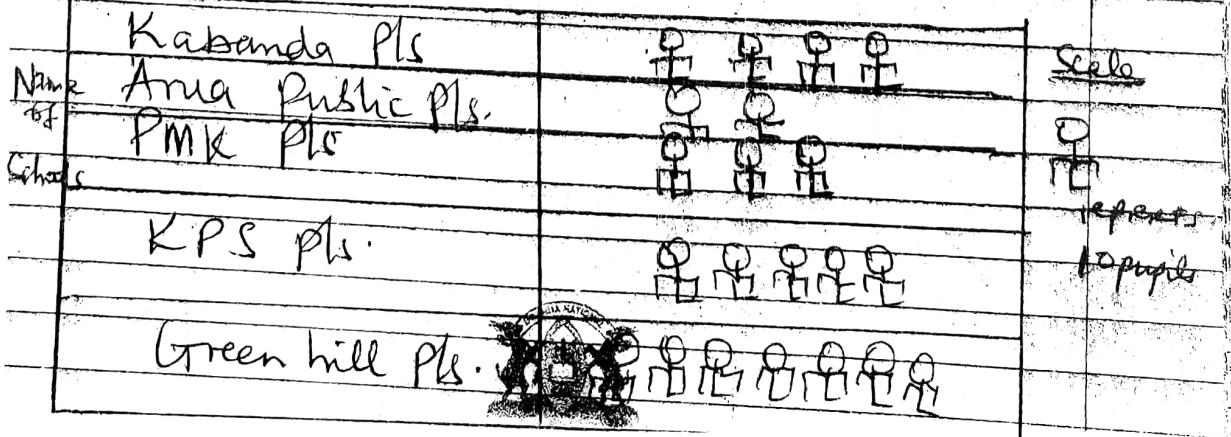
(a) What fraction of the tank was added with water?

24 Add $12\frac{1}{3}$
+ $22\frac{2}{3}$
 $\underline{}$

(b) Given that $10k = 110$, find the value of the base represented by letter k.

25 Using a ruler and a pair of compasses only. Construct triangle XYZ in which $XY = 6\text{cm}$, $XZ = 5\text{cm}$ and angle $YXZ = 120^\circ$.
(a) Measure angle XYZ .

26 The picture graph below represents the number of pupils who passed PLE 2023 in the schools below.



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- (a) Which school had the best results that year?
- (b) Which School had the poorest results that year?
- (c) What was the total number of pupils who passed PLE in the schools above?
- (d) How many more pupils passed in KPS Pls than in Arua Public Pls?

27 Simplify

(a) $-2(x+y)$.

(b) $(-2x+x-y)-2$

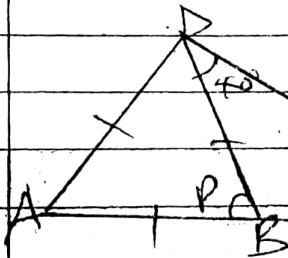
(c) Subtract $y+1$ from $2y+3$.

28 A trouser and a belt cost sh 50,000.

A trouser costs five times as much as the belt,

- (a) What is the cost of the trouser?
- (b) Calculate the cost of the belt.
- (c) How much should one pay if he buys 2 trousers and a belt?

29 Study the figure below, given that ABC is a straight line



(a) Find the size of angle P?

(b) Find the value of angle K.



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30 The mother is twice as old as her son.

In 5 years time their total age will be 70 years.

(a) How old is each now?

(b) How old will each be in 5 years time?

31 Given that $y = -2x + 4$, use the equation to complete the table.

X	-3	-2	-1	0	1	2	3
Y	10	-	-	4	-	-	-

32 Find the area of the following

